MATERIA MEDICA AND THERAPEUTICS.

The Modifications of Temperature in Febrile Diseases of Children by General Inunctions.

FOURCAULT having shown that the application of an impermeable varnish to the skin of an animal causes a lowered temperature, several physicians have attempted to make a practical application of this refrigerant effect in exanthematous diseases, using fatty matters, collodion, or traumaticine (gutta-percha) dissolved in alcohol. Schlemann and several German physicians, after different trials, have found that a fever seems most influenced by inunctions. Senator was the first to make experiments of a serious and practical nature on this subject, using the thermometer as a guide. These experiments showed that, in a healthy man, the application of fatty matters or varnish caused insignificant modifications of the temperature, but that in the febrile subject they diminished the temperature to a greater or less extent.

No experiments having been made on children, Dr. COLRAT, of Lyons, began to experiment with lard, cerate, and vaseline in the different acute affections of young subjects. In every case he obtained an abatement of the general temperature of the body. The thermometer, in the rectum, often showed a diminution of 1°.4 Fah., sometimes more, but rarely so much as 3°.6 Fah. The maximum abatement was attained in these experiments in about one hour after the inunction, and in two-and-a-half or three hours the temperature had risen again. Another inunction at this time gave the same results. Dr. Colrat's experiments were made on children of from one to two years of age. He had occasion, also, to use this method in the case of a child of three months and on another thirteen days old. In these cases the abatements of temperature were considerable. Under the influence of inunctions of vaseline the temperature fell 2°.8 Fah., and even 3°.6 Fah. That these frictions are entirely harmless has been conclusively demonstrated by Schlemann, who made inunctions on scarlet fever patients for more than four weeks at a time.—*Journal de Méd. de Paris*, March 8, 1884.

Chinoline as a Febrifuge.

Chinoline is now used quite extensively in the medical clinic at the University of Upsala. In fevers of a determined type it is given at the period of maximum and minimum temperature; the same is true in secondary fevers, as the hectic fever of phthisis. It is given every third day at the same hour, so that the effect of one dose has passed off before the next is administered. In a small hospital, as that of the Upsala clinic, these experiments present a certain number of practical difficulties on account of the rarity of the cases. HENSCHEN has thus far reported on 18 cases of phthisis, 1 of chronic pneumonia, 1 of tuberculosis with tuberculous meningitis, 2 cases of uro-genital tuberculosis, 20 of typhoid fever, 1 of acute pneumonia, 4 cases of pleurisy, 1 of pleuro-pneumonia, and 1 of acute cystitis and cancerous peritonitis.

Tartrate of chinoline appears to have an energetic action in the hectic fever of phthisis, it acts equally well in typhoid fever, in some cases seeming to give it an abortive form. Henschen draws the following conclusions:—

1. Chinoline is indicated in fevers caused by infecting micro-organisms, such as the bacillus tuberculosis, or by local phlegmasiæ.

2. It is contra-indicated in gastric affections (particularly simple ulcer of the stomach) and in persons having a tendency to nausea and vomiting. Vomiting, under these circumstances, may be as dangerous as hæmoptysis (hæmatemesis or peritonitis).

3. Chinoline causes lowering of the temperature in most cases, with the phenomena of collapse, and without cardio-pulmonary troubles. Its action is often manifested in two hours, sometimes later; it persists for twelve or fourteen hours, and disappears after about twenty-four hours; sometimes, however, it is seen after thirty-six hours or longer. It does not act quickly, but its effects last for a long time. Defervescence does not appear to be proportional to the dose. In exceptional cases chinoline causes an elevation of temperature; this elevation commences in one or two hours and may attain a high degree. In six or eight hours the temperatnre falls below the initial point. This is seen after the administration of large doses, and is sometimes accompanied by *malaise* or rigors. There are also differences in it according to individuals.

4. Chinoline is given in the afternoon, after the febrile exacerbation, in doses of gr. vijss to xv; gr. xv have the same effect as the same quantity of quinine.

5. The principal advantage of chinoline is its relatively low price; furthermore, it does not cause nervous phenomena (headache and roaring in the ears) as do salicylic acid, quinine, or resorcine. Its principal disadvantage is that it causes nausea and vomiting. Certain patients take it well; others do not. It may be given per rectum, when it does not cause these symptoms. Sometimes it causes diarrhœa. When used with caution this drug is useful and active.—*Upsala lakaref. Fordhandl.*, Bs. 18, p. 466; *L'Abeille Méd.*, March 31, 1884.

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Resorcine.

This drug, belonging to the aromatic series in chemistry, to which carbolic acid, salicylic acid, and many other drugs also belong, was discovered, in 1860, by Hlassivetz and Barth, but has only recently come into use. It is a dioxydrylbenzol, and its formula, $C_6H_6O_2$, is nearly related to that of carbolic acid, C_6H_6O, which drug it also resembles in its physiological and medicinal properties. Resorcine is very soluble in water, 95 parts in 100, and less so in ether, alcohol, glycerine, and vaseline. The aqueous solution is neutral. It darkens on exposure to the air, is phosphorescent, and treated with perchloride of iron it gives a beautiful blue colour; or, if sulphate of soda has been previously added, a deep garnet.

Its physiological effects have been well described by Justus Andeer, Callias, Péradon, Brieger, Patella, and Guarta. It destroys the low organisms, causing certain fermentations and putrefactions. A solution of 1 to 100 arrests alcoholic fermentation. A solution of 2.5 to 100 stops lactic fermentation, and is a valuable preservative liquid for anatomical specimens. It is, therefore, an antifervescent and antiputrescent of great power. As regards the higher animals it has a certain degree of toxicity, but much less than carbolic or salicylic acid. According to Callias a toxic dose must exceed .90 per kilogramme (℔ijss) of the animal in order to cause death. Its poisonous effects, *resorcism*, is shown in peculiar convulsive or eclamptic attacks, somewhat similar in character to the effects produced by slight electric shocks. These attacks usually last for several hours. Resorcine, then, is a convulsant, not in the same sense as strychnine, but more eclamptic than tetanic, which is exactly what Paul Bert noticed with carbolic acid. In large doses the respiration is troubled, anxious and irregular, rapid at first and then slow. The circulation is accelerated, then slowed, and finally arrested. In rare cases it causes hæmaturia. The *post-mortem* lesions are not absolutely characteristic.

Justus Andeer and Péradon have experimented upon themselves, not only with small, but with large and dangerous doses. In doses of gr. xlv–lxxv a day, the drug only causes slight roaring in the ears, without other symptoms. ℈viij,